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Research

Challenging the win-win discourse on conservation and development: analyzing support for marine protected areas

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ABSTRACT. Conservation designations such as protected areas are increasing in numbers around the world, yet it is widely reported that many are failing to reach their objectives. They are frequently promoted as opportunities for win-win outcomes that can both protect biodiversity and lead to economic benefits for affected communities. This win-win view characterizes the dominant discourse surrounding many protected areas. Although this discourse and the arguments derived from it may lead to initial acceptance of conservation interventions, this study shows how it does not necessarily result in compliance and positive attitudes toward specific protected areas. Consequently, the discourse has important implications not just for making the case for protected area implementation, but also for the likelihood of protected areas reaching their objectives. We explain how the win-win discourse influences support for marine protected areas (MPAs) and, ultimately, their success. Using data from focus groups, questionnaires, and in-depth interviews at three MPA sites in the Philippines, we identified three reasons why the win-win discourse can negatively influence prolonged support for MPAs: dashed expectations, inequity, and temptation. Through an understanding of these issues, it becomes possible to suggest improvements that can be made pre-MPA implementation that can lead to prolonged support of MPAs. A focus on less tangible and economic MPA benefits, aligning MPA goals with cultural and social values, and higher levels of transparency when describing MPA outcomes are all ways in which prolonged support of MPAs can be bolstered.

Key Words: *attitudes; behavior; compliance; fisheries; natural resource management; Philippines*

INTRODUCTION

The case has been made that biodiversity conservation is compatible with sustainable economic development (Christensen 2004, Svarstad et al. 2008, Bennett 2015). These two aims underlie many popular conservation approaches and projects (McShane et al. 2011), and they are increasingly seen as win-win opportunities that generate substantial ecological and socioeconomic benefits (De Groot et al. 2010). The latter are also often misconstrued as being solely economic benefits. However, very few projects have achieved an optimum balance between these two sets of objectives (Christensen 2004, McShane et al. 2011).

Marine protected areas (MPAs) are an example of an approach for which a win-win discourse is prevalent and has influenced the strategies used for marine resource conservation (Caveen et al. 2014, Jones 2014). The number of MPAs grows every year (Weigel et al. 2011). They are expected to maintain or restore marine biodiversity, fish stocks, and ecosystem function, and to protect critical habitat. They are also expected to improve socioeconomic conditions by increasing revenues from fisheries production in fished areas through transport of larvae from spawning stocks within the MPA (Gerber et al. 2005) or by a net emigration of adult fish to adjacent fished areas, termed “spillover” (Russ et al. 2005, Abesamis et al. 2006).

Although many MPAs are deemed ineffective in reaching their objectives (Burke 2011), MPAs are often promoted as a win-win approach (Gell and Roberts 2003, Jones 2007) and are expected to deliver socioeconomic as well as conservation benefits. The shared way in which MPAs are discussed, communicated, and understood can be considered as a discourse. They represent

“ideas, concepts, and categorizations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities” (Hajer 1995:44). Expectations of win-win situations form the predominant discourse (Caveen et al. 2013) surrounding MPAs, and these expectations accompany and underpin MPAs’ promotion and implementation (Agardy et al. 2003, Alcala and Russ 2006).

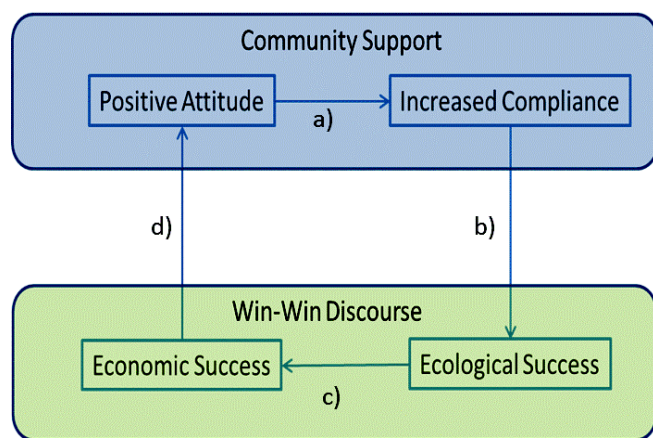
There are different proponents of win-win (Bennett 2015), and the logic and rhetoric behind the discourse have become common language among international organizations (McShane et al. 2011). This language is as significant as the actual content, and the way MPAs are talked about is highly significant (Keeley and Scoones 2003). The embedded assumptions in the way in which specific policy areas are discussed can result in explicit and simplistic summaries of situations that are more easily communicated (Keeley and Scoones 2003). It has proved easy to sell the concept of terrestrial and coastal protected areas to a broad range of interests, from park managers and conservation organizations to local communities, development agencies, and governments (Christensen 2004). The economic benefits, in particular fishery spillover, that can be accrued as a result of MPA implementation are indeed often discussed and communicated to affected communities because they are thought to encourage MPA acceptance and support (Abesamis et al. 2006, Fabinyi 2008, Buxton et al. 2014). The way in which the win-win discourse is communicated cannot be always ascribed to one particular organization, but can also be because of a large number of different actors that have a more pervasive influence. Nevertheless, the presumption is that these strategies will be accepted and supported by communities, especially if these

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economic benefits are directly perceived and experienced. In turn, this support is believed to be critical for MPA success (Chaigneau and Daw 2015).

There is a problematic circularity in which community support can be seen as both a product of MPA success but also a necessary prerequisite of success. Although community support is rarely defined in the MPA literature, often it is implied that it relates to attitudes of the community toward the MPA, which are then often considered to be a predictor of compliance (Fig. 1, arrow a; Pomeroy and Carlos 1997, White and Vogt 2000, Beger et al. 2004, Pita et al. 2011). In turn, empirical work has elucidated a link between levels of compliance or enforcement and various measures of MPA ecological success (Fig. 1, arrow b; Kritzer 2004, McClanahan et al. 2006, McClanahan et al. 2009). The buildup of biomass within well-managed MPAs is also found to enhance adjacent fisheries (Fig. 1, arrow c; Roberts et al. 2001). These MPA benefits can then have a positive influence on attitudes of the affected community toward the MPA (Fig. 1, arrow d; Abesamis et al. 2006, Fabinyi 2008, Buxton et al. 2014). This predicts, or assumes, a positive “virtuous circle” that underpins the win-win discourse.

Fig. 1. The community support and marine protected area success cycle.



Research propositions

Our aim was to understand how the win-win discourse surrounding MPAs can influence community support and hence the success and longevity of MPAs. Although the win-win discourse surrounding MPAs is believed to have a positive effect on support, we challenge this assumption and propose a number of possible ways in which it can have a negative impact.

Dashed expectations

For many conservation projects, expectations of win-win situations have been found to be unrealistic (McShane et al. 2011). A review of projects supported by the Global Environment Facility (GEF 2005) found that expectations of win-win situations were unrealistic in most cases, with trade-offs occurring between biodiversity and livelihood or development components of projects for at least some individuals or groups (McShane et al. 2011).

In the case of MPAs, there is mixed evidence on the socioeconomic benefits they provide to affected communities (Jones 2007, Chaigneau 2013), yet it is the perception and realization of the socioeconomic benefits arising from the MPA that will lead to increased support (White and Vogt 2000, Beger et al. 2004). In asserting and emphasizing the benefits to local communities, the win-win discourse may lead to hope or raised expectations of fisheries or tourism benefits. When MPAs do not deliver what they are promised to do (as they often do not), this may have negative effects on attitudes and compliance that are difficult to reverse (Chuenpagdee et al. 2013).

Equity

The win-win discourse implies that everybody within the community will “win” as a result of the MPA. However, not all people may benefit from an MPA or may not do so to the same extent. The issue of inequality and socially differentiated impacts and outcomes is overlooked by the win-win discourse, but could have significant repercussions on community support for MPAs (Fabinyi 2013). This lack of attention to the differential impacts that MPAs can have on different individuals and groups is considered to be a major weakness of these conservation and management tools (Coulthard et al. 2011).

Temptation to poach

The win-win discourse highlights the economic gains that could be realized over a relatively short time period. If these benefits are not perceived or are obscured, it could lead to temptation to poach, especially if MPAs are not adequately enforced. Potschin and Haines-Young (2011) argue that too great a focus on economic values, and the assumption of rational economic behavior, can result in an unfortunate narrowing of perspectives. This can obscure an understanding of how people and nature are linked. The win-win discourse, in resting upon a rational-actor set of assumptions about behavior and motivations, may have negative effects on support for MPAs.

METHODS

Site selection

To interrogate how the dominant win-win discourse on conservation affects support for MPAs, we undertook a study of MPAs in the Philippines, where reef fisheries provide livelihoods for more than a million small-scale fishers (White and Vogt 2000) while also being part of a center of huge conservation importance (Roberts et al. 2002). The Philippines have been at the forefront of establishing community-based MPAs since the 1980s (Christie et al. 2002). Two major forces are thought to play a part in this rise of MPAs. The first is a series of donor-assisted nongovernment organization (NGO) and government projects that have resulted in a number of projects that have established MPAs (Courtney and White 2000). The second is the devolution of authority from central to local governments under the Local Government Code initiative of 1991, which has encouraged MPA projects through a variety of institutions including government, NGOs, peoples’ organizations, and research institutions, among others (Pomeroy and Carlos 1997, White et al. 2002). Nevertheless, despite this rise in community-based MPAs (Weeks et al. 2010), almost 90% have been rated as ineffective (Beger et al. 2004, Pomeroy et al. 2005a).

Table 1. Characteristics of the three villages studied in the Visayas region of the Philippines.

Village	Municipality	Province	Population size (2007)	MPA size (ha)	MPA implementation	Management Body	Assisting Organizations
Bonbonon	Siaton	Negros Oriental	1629	8.6	1994	Tambobo Fishermen's Association	Environment and Natural Resource Division (ENRD)
Candaping B	Maria	Siquijor	590	20.4	2003	Fishermen's Association (FA), Barangay Fisheries and Aquatic Resource Management Council (BFARMC), Candaping B Management Committee, Municipality of Maria	Bureau of Fisheries and Aquatic Resources (BFAR), Siquijor Coastal Resource Enhancement Program (SCORE), Municipal Local Government Unit (MLGU), CCE Foundation
Suba	Anda	Bohol	1123	20	2004	Suba Marine Protected Area Management Team	

MPA indicates marine protected area.

We studied three villages with associated MPAs within the Visayas region, where the resource base, habitats, and fisheries are degraded and their ability to supply food and livelihood is declining (Green 2004). It is here that most Filipino MPAs are concentrated (Weeks et al. 2010; see Fig. 2 and Table 1). These sites were selected to allow for comparative analysis and to search for commonalities between them. To ensure that these sites would be representative of the majority of MPAs in the Philippines, we chose MPAs that were community based and within village territorial waters and had very limited, if any, tourist amenities within the village. Each MPA was managed principally by groups within the village, but may also have received initial and continued help from assisting organizations (Table 1). However, those involved in management are not always active, and the responsibility for MPA management can fall on different groups at different times. Finally, we also ensured that the MPAs had been established long enough (>7 years) for potential ecological or socioeconomic benefits to occur.

Data collection

Focus groups, in-depth interviews, and questionnaires were used to gain an understanding of community support and to see what is perceived to be important for support by target respondents. The aim was to learn how local communities see, understand, and value the MPA. How do they think about it? How do they feel about it? How do they talk about it? What do they like or dislike about it? What keeps them from reporting or poaching? What is preventing them from acting? What are the incentives for monitoring and reporting encroachers? The focus groups and questionnaire allowed us to gather a relatively large number of responses and viewpoints, and to observe interactions between individuals. In-depth interviews focused on important themes that arose and allowed us to get more information on potentially sensitive information such as poaching.

We used a multiple category design involving focus groups with several types of participants who had varied needs and interests. This increased the chances that a wide range of factors and themes thought to influence support would be identified. Seven focus groups were held at each site (eight in Bonbonon, see Table 2), with six to eight participants attending each. Fishers were chosen randomly from the questionnaires we used and asked whether they would like to participate. Fishers' wives were chosen throughout the village via snowball sampling, and key individuals related to the MPA were already identified through discussions with key informants.

The in-depth interviews aimed to provide information on inductive themes or factors that arose from focus groups or informal discussions in the community. Six in-depth interviews at each site were done after the focus groups. That way, those people who were shy or timid in a group setting could be interviewed, or those with interesting insights could elaborate further.

Fig. 2. Map of the Visayas region of the Philippines, including the three research sites with estimated scale bars, and a broader map of the Philippines. Source: Wikitravel (http://wikitravel.org/en/File:Map_of_Philippines.png).

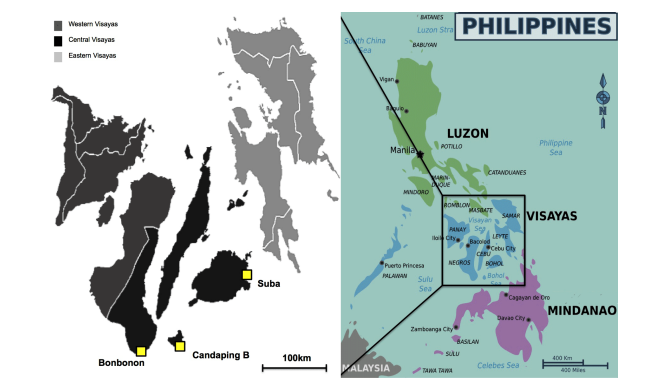


Table 2. Study design highlighting the number and types of focus groups, in-depth interviews, and semistructured interviews carried out at each site.

Participant types	Bonbonon		Candaping B		Suba	
	FG	IDI	FG	IDI	FG	IDI
Fishermen	5	4	5	4	4	4
Fishermen's wives	2	0	2	2	2	0
Village officials (and those involved with MPA)	1	2	0	0	1	2

FG indicates focus group; IDI, in-depth interview; MPA, marine protected area.

Finally, fishers at each site ($n = 57$ Bonbonon, $n = 60$ Candaping B, and $n = 49$ Suba) were asked a number of questions via a survey to elucidate their attitudes toward the MPA (to create an index of attitude, answers were recorded as a position along a 10-cm horizontal line representing very positive to very negative), the reasons as to why the MPA was implemented, and whether they have perceived any benefits. Local government and key informants were initially contacted to source lists of fishers. Because these were inaccurate and outdated, opportunistic sampling was also carried out at landing sites. Snowball sampling, in which respondents were asked to let us know of other fishers in the area, allowed us to cross-check with questionnaires already completed to ensure that the majority of fishers had been interviewed. An estimated 70%-90% of the total number of fishers were interviewed in each village. An interpreter was used to translate all information to and from Cebuano and to moderate, transcribe, and translate information from these different data collection methods.

Analysis

The data obtained from focus group and in-depth interview transcriptions were coded into various themes using QSR NVIVO 10 software (QSR International, 1999-2012; <http://www.qsrinternational.com/>). These codes were then used as labels and marked segments of the transcript relating to each factor. This allowed the creation of descriptive summaries of each theme and factor, along with relevant quotes and the resulting ability to determine whether findings were consistent across groups and across sites. It was then possible to go through each thematic report and observe how these different themes influenced attitudes, MPA-related actions, or the link between them to understand what influences support.

During analysis we focused principally on elucidation and understanding of the various factors and aimed to identify similarities between sites. This involved searching for commonalities between villages to pick up factors that were more significant in that context rather than ones that were highly idiosyncratic, while remaining alert to and inquisitive about the differences that emerged.

Descriptive statistics were determined for the questionnaire in SPSS version 21 (IBM, Armonk, New York, USA; <http://www.ibm.com>). These were focused on exploring percentages of those

who perceived MPA benefits and those who did not. Student t tests and chi-square tests were also carried out to determine whether there were significant differences between the attitudes and enforcement of those who perceived MPA benefits compared with those who did not, and of those who trusted enforcers compared with those who did not.

A number of limitations to our methodological approach must be made clear. First, we could not verify that what was said throughout focus groups, interviews, or questionnaires reflected what respondents actually thought or believed. In particular, some may have provided answers that they thought may have been "correct" or "right." This was less apparent in the focus groups and in-depth interviews, where lengthy discussions and conversations occurred and where there often was no correct or wrong answer to be made. Second, despite working with the same very good research assistants (from the Visayas region) at each site, it was inevitable that some nuanced information would be lost during the translation of the focus groups' discussions and in-depth interviews. Finally, because of budgetary and time constraints, it was not possible to remain for extended periods of time at each site. This undoubtedly had repercussions in our understandings of internal community dynamics, community histories, and other more nuanced contextual factors. Nevertheless, we made three repeated visits of one month at each site, which we hope helped engender trust and provided us with enough contextual knowledge to interpret our findings accurately.

RESULTS

To best explain how a win-win discourse can affect community support for MPAs, we explored our different propositions and whether these can influence MPA attitudes and compliance.

Dashed expectations

In accordance with the community support and MPA success cycle (Fig. 1, arrow d), a t test indicated that those who perceived economic benefits of an MPA were significantly more likely to feel positively (mean = 0.72, standard deviation [SD] = 0.16) toward the MPA than those who did not (mean = 0.43, SD = 0.16; $t(145) = -11.35$, two-tailed $p < 0.001$; Fig. 3) Furthermore, a chi square test showed a significant association between fishers perceiving benefits and whether they would act upon seeing a poacher ($\chi^2(1, N = 164) = 17.35$, $p < .001$; Fig. 4). On being asked what they thought about the MPA, one fisher summarized comments made by other individuals and implied causality: that attitudes become more positive as benefits are accrued:

At first I didn't like the sanctuary because I was thinking that we would have no place to catch fish because it is prohibited to get inside. But now I realize that it is good because the fish from that area will go out and we are free to catch those fish. (Candaping B, focus group 3)

Therefore, whether or not economic benefits are perceived was associated with both attitudes and actions toward the MPA. Perceptions of fishery spillover in particular are important. However, there is a growing concern that there are frequently unrealistic expectations of what MPAs can deliver (Pomeroy et al. 2005b, Rosendo et al. 2011).

Fig. 3. Differences in attitudes among individuals who perceived various MPA benefits. MPA indicates marine protected area.

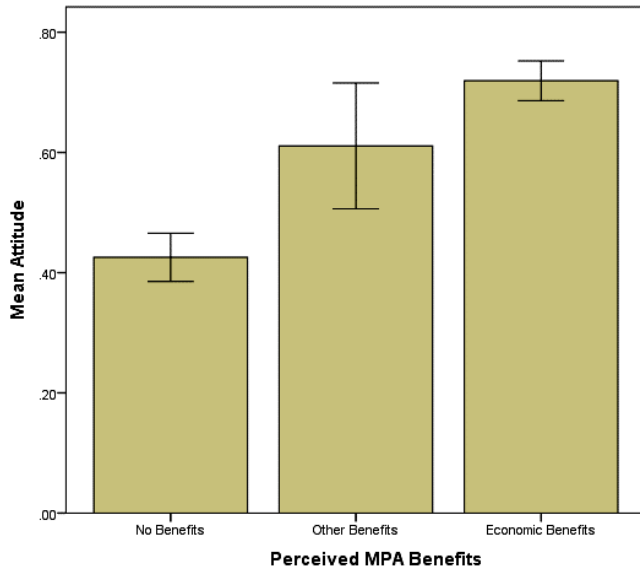
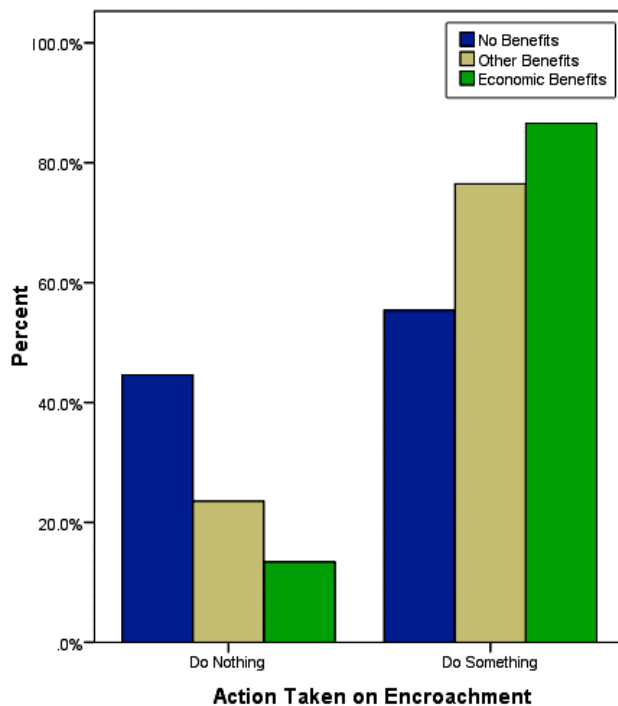


Fig. 4. Differences in whether action was undertaken upon spotting a poacher among individuals who perceived various marine protected area benefits.



An in-depth interview highlights this issue clearly. Following an early MPA meeting, this fisherman was led to believe that there would be fishery and economic benefits but is now doubtful these will occur because of encroachment.

They promised [at the MPA assembly meeting] that the sanctuary is a good thing. That there will be more catch and more fish for the people of Suba and that we will become rich. But how will this occur if people continue to encroach? That's the problem here. (Suba, in-depth interview 3)

It is important to note that this fisher is concerned about the lack of economic benefits rather than achievement of other MPA objectives. Others in Suba seemed disenchanted with the MPA because expected benefits had not accrued.

We have already experienced what a sanctuary [MPA] is and now it is not as good as it can be. (Suba, focus group 1)

Indeed this is an issue across all sites. Almost 40% (39.1%, $n = 166$) of people were unaware of or did not perceive any benefits arising from the MPA. Furthermore, many people were more positive about their catches in previous years and were more sceptical about their future fish catch in general (Table 3), implying that they were sceptical that the MPA would be able to boost their fish catch.

Table 3. Fisher perceptions of past and future fish catch and size. Answers expressed as a percentage ($n = 166$).

	Less/ Smaller	Same	More/ Bigger	Do Not Know
Past catch	1.8	3.6	88	5.4
Future catch	32.7	29.7	13.9	23.6
Past size	2.8	28.8	62	6.7
Future size	20.6	34.5	6.1	38.8

These findings suggest that expectations of future economic benefits can lead to positive attitudes. However, if these benefits are not realized, negative attitudes toward the MPA can follow. These attitudes in turn can lead to disappointment in the MPA and a lack of support (Sandersen and Koester 2000, Christie 2004). Therefore, although raising expectations may boost attitudes toward the MPA initially, if the MPA objectives are too optimistic, unlikely, or hard to detect, or fluctuate over time, it is possible that overstating the benefits can have a negative effect on attitudes toward the MPA in the long run.

The perception of economic benefits appears to be very important when gathering support for MPAs. Conversely, a perceived lack of MPA benefits can lead to lower levels of support. However, those who perceived other noneconomic benefits linked to bequest or existence value arising from the MPA (for example, fish for future generations or more fish within the MPA) were fewer in number ($n = 17$, 10% of respondents). A t test also highlighted that these people were significantly more likely to be positive (mean = 0.61, $SD = 0.19$) than those who perceived no benefits at all (mean = 0.43, $SD = 0.16$; $t(79) = -3.89$, two-tailed $p < 0.001$; Fig. 3)

We found a weakened but similar pattern when looking at MPA-related actions. Among those who perceived other MPA benefits, 77% of them acted upon seeing poachers (Fig. 4).

Temptation

Economic benefits such as fishery spillover may not outweigh the costs of having a MPA. The MPA results in a reduction in traditional fishing grounds accessible to persons for fishing, and these costs may outweigh perceived direct individual benefits. The notion that there are plenty of fish within the MPA is a widespread one. It is believed to be an area where fish can stay and be protected, which may tempt some fishers to poach and hence decrease levels of compliance.

It became clear that persons who cannot meet the basic physiologic needs for food and shelter cannot be expected to act in favor of the MPA unless they believe it can help them materially. This thought was echoed throughout the three villages because the influence that wealth or poverty can have on compliance was frequently alluded to.

Q: *Why do they poach?*

A: *They can't buy enough food.* (Bonbonon focus group 2)

Q: *What is the reason they go inside?*

A: *Because of [to get some] income. And they don't have enough money to feed their family.* (Candaping B focus group 4)

Perceptions of large numbers of fish within the MPA were also suggested to influence compliance at all three sites. When asked why certain individuals poached the MPA, similar answers alluding to the “large and plentiful” fish inside the reserve were frequently made.

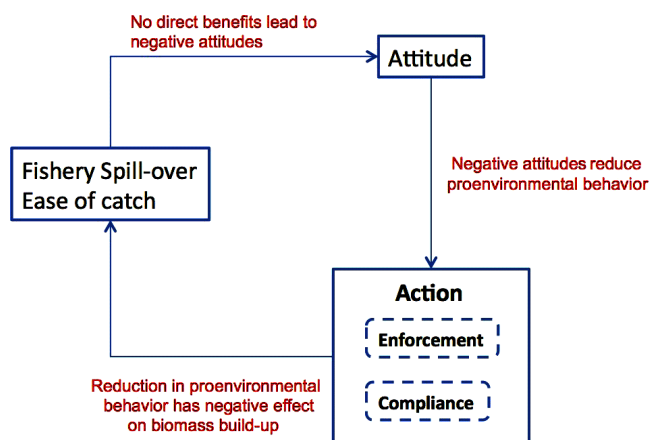
Q: *What are the other reasons for these people [poachers]?*

A: *If you catch someone who gets inside [the MPA] you get a share or a little amount from the fines but if you get inside you can earn big money, much bigger than from your share of the penalty. Maybe that is one of their [poachers'] reasons. If you get 5 kg of fish, it is a lot of money.* (Bonbonon, in-depth interview 5)

The larger perceived abundance and especially the size of fish inside the MPA suggest there is potential for fishery spillover; however, these can also be enticing and can tempt fishermen to poach. As the above interview highlights, a person who helps enforce the MPA can get a financial reward from the fine given to the poacher. However, the interviewed individual noted that poaching gives you a far bigger reward in terms of fish catch. Where MPAs are successful from an ecological perspective and accumulate fish biomass, but provide limited spillover, lower levels of compliance and increased levels of poaching might occur.

Byers and Noonburg (2007) suggest that poaching could eliminate the positive effects of fishery spillover. If this is the case, a negative reinforcing cycle could occur, with ever-increasing poaching leading to fewer spillover benefits, which in turn will promote more poaching and more negative attitudes toward the MPA (Fig. 5). Although this cycle could be broken by higher levels of enforcement, many of the small community-based MPAs in the Philippines do not have the funds available for regular monitoring and enforcement.

Fig. 5. Negative reinforcing cycle of direct economic benefits and support for marine protected areas.



Equity

There is a negative attitude toward “unfair management” of the MPA because friends or family of the enforcers or foreign poachers from other villages tend not to have to pay the full fines. Often, those empowered by being close to the government or MPA managers were also thought of as the lucky ones who could escape the sanctions and could benefit from poaching without enforcement.

Q: *Is the captain and barangay council in favor with the MPA?*

A: *Yes, they like it because they are not fishermen. They like to have their sanctuary for themselves only and not for the people.*

Q: *Why?*

A: *Because if they want to eat big fish they will let someone get inside and eat the caught fish. Nobody will scold them because they have their position [are empowered].* (Suba, in-depth interview 2)

We get mad and sometimes jealous because if we were caught, we would be made to pay the penalty. (Bonbonon, focus group 6)

They can think negatively [toward the MPA] because they can see poachers from other places who violated [the rules] and that is unfair to them. (Bonbonon, focus group 1)

One may feel less positive toward the MPA if they believe others are “free riding” and can escape without being caught. This perceived unfair enforcement can influence the attitudes of the community toward the MPA and its management, but it may also prevent some individuals from acting in a way that benefits the MPA. In focus group 1 in Bonbonon, a known encroacher admitted to having encroached because he was following in the footsteps of others. The presence of encroachers who reap the benefits of poaching fish from the MPA but are not getting caught can make others jealous and spur them to imitate these encroachers. Therefore, some may be ‘conditional cooperators,’ who will act in favor of the MPA only if they perceive others as doing so (Ostrom 2000). Indeed, a t test indicated those who acted

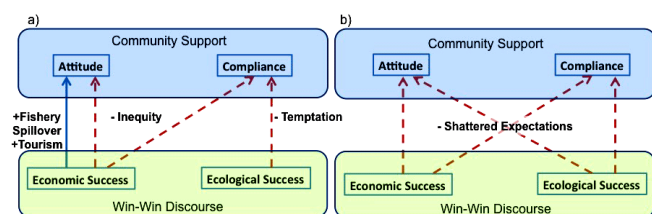
upon seeing an poacher were significantly more trusting of the local enforcers (mean = 8.84, SD = 2.92) than those who did not act upon seeing an poacher (mean = 6.07, SD = 3.68, $t = -5$, two-tailed $p < 0.01$).

DISCUSSION

The win-win language has become common among international organizations involved in conservation or development projects (McShane et al. 2011). However, although the marketability of the win-win concept remains robust, it is doubtful that it adequately describes the outcomes that occur (McShane et al. 2011). By understanding how the win-win discourse influences support of MPAs, we get an insight into how and why it can cause conservation projects such as MPAs to fail.

We provide evidence that in emphasizing economic benefits that can arise from MPA implementation, the win-win discourse can have negative effects on support through three different pathways. These effects could occur regardless of whether the MPAs are perceived as reaching their social and economic objectives (Fig. 6a) or whether they are not (Fig. 6b).

Fig. 6. MPA success and its effect on community support. (a) A successful MPA. (b) An MPA not achieving its economic and ecological objectives. MPA indicates marine protected area.



Even if MPAs are providing benefits, not all people in a community will perceive or obtain these benefits. In this case, how can support toward MPAs be bolstered? The answer may be to focus attention on a wider range of MPA benefits beyond those commonly cited in the win-win discourse, and to consider the views that are formed about what MPAs are and what they represent in the different communities affected by them.

We argue that the cases made for MPAs should be better informed and more accurate about the range of outcomes expected and not give emphasis to economic gains. Fishery spillover, for example, may be a good way to increase the chances of MPA implementation and to boost initial support, but these benefits may not be accrued, may not be perceived, and may fluctuate over time, and hence may not lead to prolonged support for the MPA. With fishing effort on the rise and increasingly deteriorating environmental conditions surrounding many MPAs because of pollution and climate change (Burke 2011), fishery spillover may be less than expected and not compensate for general decreases in catch. Some also may not perceive any fishery spillover, which could lead to shattered expectations and negative attitudes toward the MPA.

A focus on individual economic gain can also easily lead to a negative cycle (Fig. 5). Lack of benefits leads to lack of support, which in turn leads to less likelihood of MPA benefits in the future. Therefore, it is important to consider other less direct benefits of

the MPA. For example, the current and future ecological or socioeconomic situation might be worse for the majority if the MPA were not there, even if direct fishery benefits are not perceived.

We should not assume that individuals are solely rational and self-interested actors who think only of the direct economic benefits an MPA is providing or can provide them in the future. We found that respondents did mention other benefits that did not result in direct economic benefit to themselves (Fig. 3). When perceived, these were also found to have significantly positive effects on support of MPAs. Therefore, it is important to consider social relations within the community and the broader implications of an MPA. This is supported by recent social psychological theory that suggests that people not only are motivated by narrow economic self-interest but also consider the broader implications of their decisions for others and for the environment (Van Vugt 2009).

In the following comments participants articulated how the MPA will lead to a better outcome in the future, either for themselves or for the future generations. This could be thought of as the bequest value of MPAs.

Fish will run out so we are thankful to have the MPA (...). Pity for those children who are following us, time will come that they have no more to catch if the sanctuary will be destroyed. (Bonbonon focus group 6, fishers' wives)

Even without direct economic benefits, some are positive about the MPA because they expect it will be a benefit for the future. Thinking about the future is also stated as a reason why some decide to take action and enforce the MPA rules after being asked what they would do if they spotted a poacher.

Participant 3: *I will let him (poacher) pay the penalty (fine)*

Moderator: *What is the reason for doing this?*

Participant 3: *So that they will not abuse the MPA. So that they will never do it again because this is for the future.* (Candaping B, focus group 5)

At all sites, aesthetic benefits were also mentioned, which can be considered as a type of existence value. Therefore, highlighting these benefits may be able to boost attitudes toward MPAs.

Participant 1: *Yes, and even if our place is poor we will think that we are rich because we can see beautiful corals and fishes* [laughing].

Participant 2: *Now the corals are more beautiful compared to before.* (Candaping B, focus group 1)

Participant: *If there is a sanctuary, there is an additional beautification on this area.* (Suba, focus group 1)

It seems that there is also a level of pride in having a beautiful protected area with many corals and fish species, and some individuals are indeed proud to have an MPA in their village. Some go further and argue that the MPA is a good thing for the barangay as a whole, and they do not seem to perceive the MPA as solely for themselves.

It's for the good of every one of us. (Bonbonon, focus group 1)

For me, it's good if the people will obey the rules and regulations of the sanctuary because the sanctuary can help our barangay (village). (Bonbonon, focus group 2)

The benefits an MPA may have for the village in general could also be an important factor influencing attitudes toward the MPA. Although some may be considering future economic benefits, it is not necessarily for themselves but for the village and others within the community. This is a step away from considering individuals as selfish, rational actors. This idea that individuals are not evaluating their own benefits and costs more intensely than the total benefits and costs for the village itself has been identified as being crucial in overcoming common pool resource dilemmas (Ostrom et al. 1999).

Implications for management

We found that the emphasis of the win-win discourse on economic benefits can initially influence attitudes and actions toward MPAs positively. However, these benefits may be small when considering the size of the MPAs at stake and the displaced fishing effort in surrounding areas. Furthermore, with increasing fishing effort because of technological creep and increasing population size, it is clear that support for MPAs because of direct economic fishery benefits is not sustainable.

Therefore, it may be best to think of support for MPAs as a dynamic entity that waxes and wanes over time. After implementation, fishery spillover benefits may occur and increase over time. However, once these benefits have peaked, increasing numbers of fishers may experience reduced individual benefits and, consequently, have reduced support for the MPA. We argue for greater focus on other nondirect benefits related to the existence (fish for the future generations) and the bequest (aesthetic benefits) values of an MPA, which were also identified as being important factors influencing attitudes and actions toward MPAs. Not all fishers are motivated by the same desire for financial gain (Dimech et al. 2009). Other types of MPA benefits, which are often ignored in the win-win discourse surrounding MPAs, also have a role to play in influencing support. Rather than focusing on personal economic gain after certain time periods, community support may be maintained over longer periods of time when focusing on more collective values and striving for a better future than one without an MPA, a goal that may be more difficult to measure but is arguably more attainable and realistic, and less likely to fluctuate. This focus may result in fewer MPAs being implemented but may ensure longevity of those that are already implemented by retaining support from the community over long periods of time. Describing projects and policies as win-win is common practice, yet it does not provide a broad enough view of the multiple dynamics and complexities of most conservation and development scenarios (McShane et al. 2011). The win-win discourse surrounding many natural resource management and conservation strategies may improve their marketability and implementation. However, we argue that it can potentially backfire by having a negative effect on longer term community support.

CONCLUSION

It is becoming increasingly apparent that the myth of win-win solutions has created a culture in which overly ambitious projects have proliferated based on weak assumptions and little evidence

(Christensen 2004). The issue with discourses such as these is that they are always oversimplified and often reflect the view of a selected few (Keeley and Scoones 2003). Not everybody will be affected in the same way by interventions such as MPAs; there will be unequal impacts and trade-offs between groups or over time (Schoon et al. 2015). The management of MPAs is an ongoing challenge that is not amenable to only one remedy or to following a simple set of rules. Indeed, it is thought that there are no panaceas for social-ecological problems and that there is a need to learn from outcomes of governance and adapt appropriately in light of effective feedback (Ostrom et al. 2007). Not only do effective solutions require an appreciation of the particular context, local history, and cultural values and customs, but also an appreciation of the diversity of needs, interests, and characteristics of the individuals within it.

Three reasons as to why the win-win discourse negatively influenced prolonged support for MPAs were identified: dashed expectations, inequity, and temptation. If we are to ensure prolonged support for these strategies, and the likelihood of their success, it is imperative to not focus solely on direct economic gains that can be made but include other aspects of their management relating to equity, fairness, communal gain, bequest, and existence values.

Responses to this article can be read online at:

<http://www.ecologyandsociety.org/issues/responses.php/8204>

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